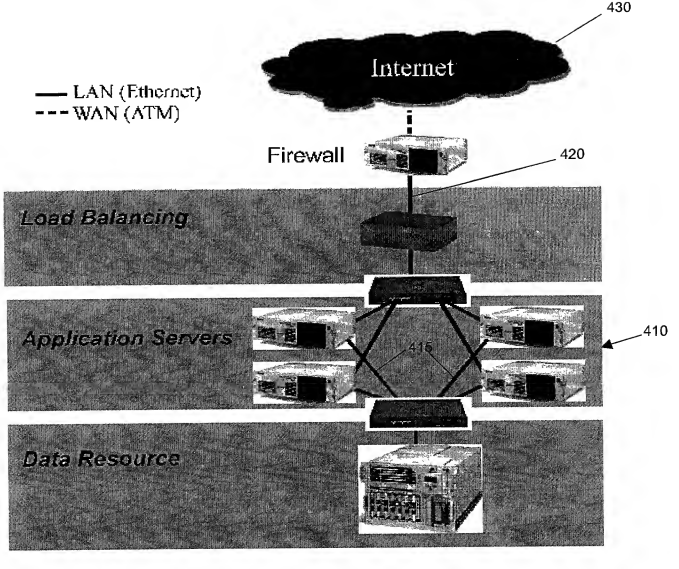
430
Internet
LAN (Ethernet)
WAN (ATM)
Firewall
420
Load Balancing
Application Servers
415
410
Data Resource

Fig. 1

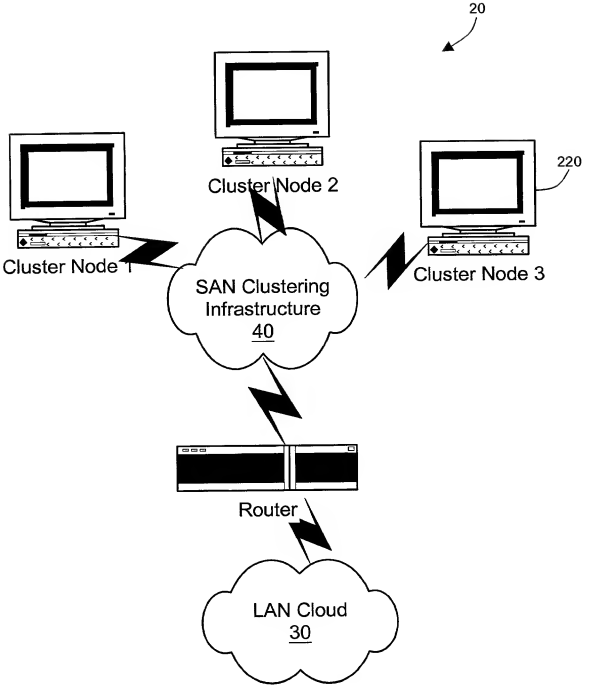
20
Cluster Node 2
220
Cluster Node 1
Cluster Node 3
SAN Clustering Infrastructure
40
Router
LAN Cloud
30

Fig. 2

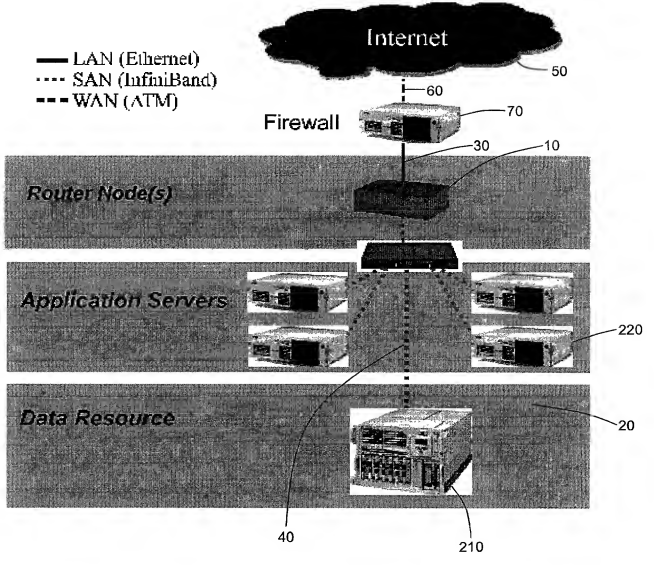
LAN (Ethernet)
SAN (InfiniBand)
WAN (ATM)
Internet
50
60
Firewall
70
30
10
Router Node(s)
Application Servers
220
Data Resource
20
40
210

Fig. 3

Fig. 4

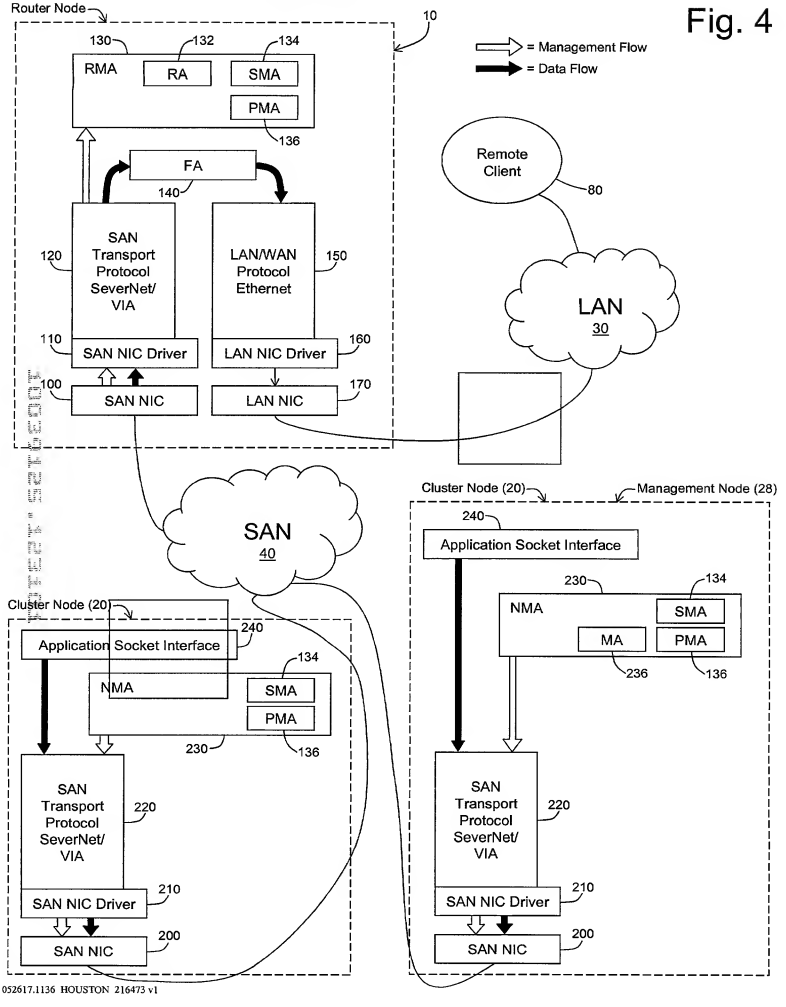
Router Node
10
= Management Flow
= Data Flow
130
132
134
RMA
RA
SMA
PMA
136
FA
140
Remote Client
80
SAN Transport Protocol SeverNet/ VIA
120
LAN/WAN Protocol Ethernet
150
LAN
30
110
SAN NIC Driver
LAN NIC Driver
160
100
SAN NIC
LAN NIC
170
SAN
40
Cluster Node (20)
Management Node (28)
240
Application Socket Interface
230
134
NMA
SMA
MA
PMA
236
136
SAN Transport Protocol SeverNet/ VIA
220
210
SAN NIC Driver
200
SAN NIC

Fig. 5

Policy Table

Services	Eligibility	SAN address	Weight
http	No Authorization Required	Clust Node 1	Allocate Twice
ftp	No Authorization Required	Clust Node 2	Allocate Once
SAP	Authorization Required	Clust Node 1	Allocate Once

Fig. 6

Session Table

SRC MAC Add	SRC IP Add	SRC TCP Sock #	DEST SAN Add	Session Handle
Rem Clnt1 MAC	Rem Clnt1 IP	Rem Clnt1 Sock #	Clust Node1	Session Handle1
Rem Clnt2 MAC	Rem Clnt1 IP	Rem Clnt1 Sock #	Clust Node2	Session Handle2
Rem Clnt2 MAC	Rem Clnt1 IP	Rem Clnt1 Sock #	Clust Node3	Session Handle3

Fig. 7

Cluster Node Management Election Packet

Broadcast from the Cluster Nodes:

0	1	2	3
Source IP address			
Destination IP address			
Priority		Cluster ID	
Packet Type		Function	
Router IP address (N/A)			
Management Node IP address (N/A)			
Source Port (N/A)		Destination Port (N/A)	

Fig. 8

Router Node Management Election Acknowledge Packet

Reply from the Router Node

0	1	2	3
Source IP address			
Destination IP address			
Priority (N/A)		Cluster ID	
Packet Type		Function	
Router IP address			
Management Node IP address (N/A)			
Source Port (N/A)		Destination Port (N/A)	

Fig. 9

Management Node Notification Packet

Sent from the Router Node to the Cluster Nodes

0	1	2	3
Source IP address			
Destination IP address			
Priority (N/A)		Cluster ID	
Packet Type		Function	
Router IP address			
Management Node IP address			
Source Port (N/A)		Destination Port (N/A)	